



Galway City Community Network
Líonra Pobail Chathair Na Gaillimhe

The Public Participation Network in Galway City

Galway Metropolitan Area Transport Strategy (GMATS) Pre-draft Stakeholder Consultation

GCCN Submission

October 2023

Preface

Established in 2014, **Galway City Community Network** (GCCN) is the Public Participation Network in Galway City. It represents groups and organisations in the community, voluntary and environmental sectors in Galway City. The twin objectives that GCCN pursues are to:

- Advance the values of sustainability, equality, culture, community, empowerment, and inclusivity and embed these in the policies, programmes and practice of local government, state organisations, national government, and civil society.
- Develop and implement progressive models of, and approaches to representation, participation, and engagement for civil society in informing and shaping policy development and implementation.

Submission to the Galway Metropolitan Area Transport Strategy (GMATS) Pre-draft Stakeholder Consultation

GCCN welcomes the opportunity to make this submission to the Galway Metropolitan Area Transport Strategy (GMATS) Pre-draft Stakeholder Consultation. GCCN, as the public participation network for Galway City representing over 160 community groups with a wealth of local knowledge and expertise, is in an ideal position to influence the content of the

transport strategy. GCCN held consultation meetings with a number of groups from the Environment Pillar and Access for All in the development of this submission. A particularly pertinent point that arose from these meetings is that all GCCN representatives requested that a detailed hierarchical timeline of delivery for the strategy will be available throughout the process. GCCN requests that communication of progress on targets Vs delivered infrastructure and modes of travel is delivered quarterly. This needs to be in a format that is easy to understand quickly for all ages and consistent over the lifetime of the plan.

GCCN has also drawn on its Policies and Positions document, the relevant sections of which stated:

GCCN Policy and Positions

The GCCN goal is the development of Galway as a city where all policies, plans and processes are future proofed, inclusive, and participatory with good urban land use planning and well-connected regional development which balances priorities between those who live here and those who commute in and out of the city. A city of universal accessibility where all people can access services and facilities. A city with a pedestrian-friendly, cycling friendly, disability friendly and child friendly infrastructure. A city where healthy choices are easy to make.

GCCN policy on transport is based on a Hierarchy of Road Users in the following order:

1. pedestrians and people with disabilities, 2. cyclists, 3. public transport and 4. private motor transport.

GCCN notes that the current system of one-way streets and the current operation of the pedestrian zone has cut-off cycling access to and through the city core, particularly from the east, and requires solutions if any cycle network proposals are to be credible.

GCCN endorses the European Charter of Pedestrian Rights and the Road Danger Reduction Charter. GCCN recognises that following a car-centred approach based on prioritising 'flow' for motor vehicles results in roads designs and roads management practices that are hostile for vulnerable roads users and have the net effect of increasing motor traffic.

GCCN Proposes that:

- Research be undertaken decarbonisation of the city including a focus on the provision of and provide more energy efficient public transport and an early participative process for review of the Galway Transport Strategy be undertaken.
- An exploration of the development of a Light Rail Network be undertaken, including minibus feeders and park and ride facilities, that will serve the people of Galway now and into the future.

- Speed limits of 30km/h or lower are the default option for all non-arterial roads in the city.
- Road Traffic legislation be amended to allow local councils to operate their own traffic enforcement and speed cameras.
- Galway city has an articulated vision as a pedestrian first city with associated plans for implementation which should include widespread immediate delivery of additional pedestrian crossings throughout the city.
- A Heavy Goods Vehicle (HGV) Management Strategy is developed with a view to restricting HGV movement to designated roads at designated times.
- Roundabouts be replaced with signalised crossings and in the short term raised table zebra crossings be established on all entries and exits recognising that the challenges and risks that current roundabout designs impose on vulnerable users are a barrier to pedestrian and cyclist mobility.
- Data collection and analysis are improved to highlight the car-dominated state of Galway transport and to identify key areas for the promotion of sustainable alternatives.
- Extensive rollout of fully functioning accessible bus shelters is prioritised.
- Age friendly parking spaces are allocated throughout the city.
- An upgrade of the existing Merlin Park Hospital entrance is undertaken as opposed to the development of a new entrance.
- The potential for induced traffic in the construction of new highways through and around the city is recognised.
- Green belts to prevent further urban sprawl is developed.
- The Galway-to-Dublin Cycle Greenway and the Galway City-to-Clifden Greenway are developed.

Galway Metropolitan Area Transport Strategy

The Public Consultation Process

GCCN, as the public participation network in the city, recommends the following public consultation guidelines:

- GCCN are one of the primary stakeholders during the public consultation process and utilised for updates during the rollout of transport strategy.
- Engaging with communities – this needs greater interface and rousing. Public consultations need staff with local knowledge in community centres, libraries, medical/hospital, shopping areas, at sports amenities and schools for example.
- Information events, surveys and getting feedback are critical to the consultation process. GCCN recommends linking with community representatives, youth services and family services who have on the ground knowledge of struggles of communities.
- Ensure that there is support and information on webinars, events, deadlines, in person events etc in print and online. The information for above should not be layered deep within documents or websites.
- Set up radial information offices in key areas where you want to get good engagement. Community centres or resource centres would be more than suitable.
- Use of 3 D renders is important – not everyone can read drawings. Ensure renders capture more than just city centre. Should focus on residential communities, link with R&A etc.
- A timeline of at least 8 – 10 weeks is given to the process so that all the above recommendations can be met.

Targets

GCCN asks that all targets within the framework set out by GMATS should be measurable. Proposals should be subject to a carbon assessment to determine their contribution, positive or negative to achieving, Ireland's 2025 and 2030 carbon budgets.

GCCN also recommends that GMATS illustrates clearly stated and agreed targets for modal shift, for example, percentage of journeys by modes other than private cars. All interventions should be focussed on supporting the targets. Proposed interventions such as crossings, cycle

facilities or bus lanes should not be treated as an end in themselves but assessed on how they contribute to the targets.

Light Rail Network (GLUAS)

GCCN believes that progress on the transport strategy thus far has been too slow given the scale of the evolving climate crisis. Examples of the slow progress being made include the Bus Connects project which is a vital piece of infrastructure for the city but is still a number of years away from being realised as well as failed promises on the rolling out of cycle lanes in the city, the proposed cycle lane in Salthill being the most prominent case.

GCCN suggests that a GLUAS style light rail network would be transformational for Galway city and should be given due consideration in the transport strategy. The construction of a ring road and the improvement of the bus network would not alone be enough to meet emissions targets in the climate action plan by the 2030 objective. As the population of the city grows, and the current modal share remains constant there will be considerably more vehicles on the road. It is imperative that there is transformative change in Galway city if we are to tackle the climate crisis and it is the opinion of GCCN that a light rail network would play a key element in that change. A light rail network bolstered by an extensive public bus system could also mean that planned population targets in Ardaun to the east of the city could be met by 2040. The east of the city and the commuter towns such as Oranmore and Athenry could be served by a commuter train line, so it is imperative that the development of the double rail line including a loop is given absolute priority. The redevelopment of Ceannt station should also be prioritised as the current layout is not fit for purpose for a city the size of Galway.

Oslo Effect

Any examination for a light rail network in Galway should seriously consider the impact of the "Oslo Effect" on the population of Galway. Oslo Effect is the microscopic dust, i.e., tiny particles (PM_{2.5} + PM₁₀) created by the wear and tear of car, bus and truck rubber tyres on roads, the wear and tear of road surfaces and the fine particles resulting from the grinding of brake linings. The Oslo Effect is an extremely lethal combination of invisible particles, greater than tail-pipe emissions, causing lung function damage to children, the elderly and those with existing medical conditions when inhaled and, arguably a major environmental menace, threatening biodiversity, and ecosystems across Ireland. Of the key pollution components, i.e., particulate matter (PM), sulphur dioxide, ozone and nitrogen dioxide, PM suspended in the air to heights of seven to eight metres, affects more people than the other components

and affects motorists sitting in their cars. It is a pollutant contributor to asthma, coronary artery disease, stroke, and heart attacks, causing more deaths than alcohol and obesity combined in the UK.

Oslo Effect particle emissions from the wear and tear of vehicle rubber tyres, brake linings and road surfaces are far greater than their tail pipe emissions and no doubt vehicle manufacturers will not want to be reminded that the electric vehicle (EV) with its heavier battery is no silver bullet as due to its extra weight, 20 per cent plus, it produces more wear and tear and microscopic dust particle matter (PM). There is anecdotal evidence that EV tyres replacement is greater than on conventional vehicles. Although EVs have no tailpipe emissions, it is hoped and vital that their saved emissions are not passed on to power plants. With the ongoing growth of roads, cars, buses and trucks the Oslo Effect cause of deaths will also grow.

Light rail trams, steel on steel, have no polluting emission at the point of operation. Across Europe they are common, effective and a favourable mode of transport showing beyond doubt a modal shift from cars to light rail of up to 32 per cent. It is proven that people do not leave their cars for buses but do for light rail where available. Light rail is efficient, comfortable, on time, environmentally, street and user friendly and a solution not only for pollution but also chronic traffic congestion in our cities, Galway particularly. It is interesting to note that historical horse-drawn city transport, with its sizeable residue of horse manure and urine discharge on streets was superseded by light-rail trams which cleaned our streets and equine polluted air.

Active Travel

GCCN requests that active travel infrastructure should be integrated with all public transport connections including cycle lanes. This should include direct and accessible links between major points across the city such as the UCHG, UOG and ATU. The hierarchy of road users must be implemented in any active travel design with priority for pedestrians and active travel users. GCCN request that connections are developed with heritage sites, green and blue spaces by active travel, trails, loops, and bus – map and connect these areas of importance with the rest of the city and the local community. For example, Menlo Castle, Terryland Castle, Spanish Arch and River Corrib should have a safe and continuous walking and cycling route linking each other. This would deliver considerable economic, environmental and health benefits to Galway. Greater priority is needed for such an amenity/blue/green route. Priority should be given to delivery of active travel to areas that are recognised to be deprived. Galway has the worst performing bike share in the country so there needs to be a close examination of how bike share stations can be improved, better connected and private contractors should be avoided. There is potential for Galway City Council to see this as an asset that can create vital funds if progressed correctly. GCCN requests that the transport strategy illustrates a

commitment to delivery of continuous cycle routes with a clear and planned timeline. GCCN recommends that every school should have infrastructure for active travel on the approach and outside the school. A detailed time frame for delivery of this is essential. All new schools should have active travel as primary mode of transport at the heart of the scheme and the location is relevant to the catchment of the metropolitan area. GCCN also calls for GMATS to consider the progression of junction tightening and general active travel measures in local communities such as safe crossing points in residential estates, raised crossings, traffic calming, modal filters to support quieter streets and less rat running, improved footpath widths and buffers, removal of kissing gates in estates.

Bus Connects/Public Transport

GCCN believes the current metropolitan area including Barna, Oranmore and Claregalway is very poorly served by a regular and reliable public transport service. The transport strategy should ensure that these areas are connected to the city and major employment hubs. This should work in tandem with the delivery of quality bus corridors that also serve national routes. The transport strategy should carefully consider the access routes to each school in the city from each residential area, mapping the routes of all private and public buses. It can then identify areas that are poorly serviced and address the gaps. Using the data available from schools on where students are coming from, mapping and travel times could be assessed to ensure all students have access to a reliable bus service. The strategy should include a public transport plan for the hospitals across the city including connections between them as many people, particularly elderly and disabled people, rely on public transport for health appointments. GCCN requests that planned parking is enabled for local link and park and ride buses as well as planned stops at employment hubs on all routes.

Parking

It has become increasingly clear in recent years through our own engagements with the community and the well-publicised complaints to the Joint Policing Committee that the problem of illegal parking is a significant issue in Galway. GCCN request that the transport strategy puts forward a comprehensive plan that sets out how to alleviate the issue. The transport strategy should consider the following:

- Retaining on street parking needs to be examined in some areas of the city, particularly in city centre areas. Phase out on street parking where there is potential to deliver a better quality of cycle infrastructure.
- City centre multi storey parking needs to relocate to locations on west and east of the city that have access to public transport/park and ride.

- Greater management and policing of illegal parking for a few minutes on busy routes with traffic and active travel.
- Measures should be implemented to promote integration between all modes, including Park and Ride.
- The visible implementation of ticketing would assist in sending a message of enforcement. Currently parking tickets are now issued in the post, so there is no visible sign that enforcement is active in an area.

Bike Parking

GCCN suggests that the most basic piece of cycling infrastructure is bike parking. All destinations for cycling should have bike parking of a design that allows the frame to be locked, bike parking should be weather protected, have access to bike charging facilities and located in areas that are overlooked and convenient to the entrances of the destination. Maps with up-to-date bike parking should also be provided. It will not be enough for the state to provide bike parking on public lands. Historically there has been an unfortunate and persistent failure of planning in Galway regarding bike parking at developments. To fix this will now need intervention by the state. The state will need to provide the bike parking that should have been planned into private developments in the first place. There will need to be an audit of all major trip generators private or public for bike parking. If, as an example, the target for cycling in the city is 20% of commuters using bikes then the first intervention needed will be that all employment or education hubs have enough bike parking for at least 20% of their staff.

A child friendly city needs city centre bike parking that is family and child friendly. Loading of children and any shopping, swimming bags, library books into a bike or cargo bikes needs a generous area. It cannot be tokenistic gestures of tight toaster rack stands at the side of a road with a white line between the traffic and the parking. Mapping and clustering of family friendly bike parking with parklets and ample volume of bike stands is essential to ensure that families don't arrive at the family bike parking area and find it full and the next closest one is 1-2km away. Areas of interests such as library, shopping areas, restaurants, playgrounds, beach, doctor/medical, school should all have attractive well buffered areas to park and allow for safe unloading/loading both now and into the future as demand inevitably grows.

Observations

The Galway City Community Network has adopted the 2009 National Cycle Policy Framework (NCPF) as part of its own policies. The NCPF contains a range of interventions that will be a necessary part of a successful cycling program. The NCPF also provides a set of objective tests of infrastructure such as the requirement that people on bikes should be able to maintain progress. In line with the NCPF and other documents there is a need for a whole network approach to making Galway more walking and cycling friendly. The most important feature of a network is that it is a set of connections, and any network can only be as good as its weakest link.

It is correct to have an ambition for a comprehensive network of Dutch style cycling facilities however this will take time to deliver. There is a danger of focussing on prestige schemes at the expense of approaching challenge in a holistic manner. Cycling access to the city has systematically been made more uncomfortable, awkward, difficult, and inconvenient because of a range of inappropriate and unsuitable roads management and town planning practices.

There is a need for a comprehensive review of the barriers encountered by people on bikes followed by a search for fast interventions. There should be a comprehensive analysis made of barriers to cycling and walking access. Examples include one-way streets, roundabouts (for example, Corrib Park), engineered obstacles such as road narrowing's and pinch points, for example, the Headford Road. Deliberate road closures blocking cyclists as found in Mervue. Barriers include locations where cyclists are being obstructed by queues of motor vehicles right up to the kerb and where people on bikes feel themselves forced to take to footpaths to maintain progress. There are numerous examples for example, Sean Mulvoy Road, Tuam Road, Headford Road etc. In some examples road capacity was objectively removed from cycle traffic for the purpose of storing cars in narrow stacking lanes. Examples here include Fr. Griffin Road, Bishop O'Donnell Road etc. In the case of Bishop O'Donnell Road cyclists travelling north have a cycling facility until Fort Lorenzo at which point an objectively spacious road has been arranged so that long queues of cars have been pushed up against kerb - in the space the cyclists might have been expected to use to maintain progress.

The solutions can involve removing a kissing gate, replacing a traffic island with a zebra crossing or providing by passes, putting raised zebra crossings on all arms of all roundabouts in the city, providing contra-flow permissions or facilities on one-way streets, putting continuous footways across side roads, rearranging road markings as part of resurfacing schemes, providing by passes at traffic lights, providing access through or across the pedestrian zone. Galway needs to move from a model based on systematically obstructing cycling and walking to a model based on systematically trying to improve life for people on foot or on bikes even if the first round of improvements don't always match perfection.

Proposals for larger cycling schemes should be based around clearly identified trip generators such as the Universities, the city centre retail zone, the railway station and private coach station, large business parks. In the first instance, such locations need to have clear access on obvious desire lines from their immediate catchments. Once these are established, these local networks should be extended across the city to connect with each other in a coherent manner. Where not fixing a particular problem new infrastructure should grow by adding to existing components incrementally. There should be an avoidance of creating isolated pieces of infrastructure that do not coherently link to anything else or which are cut off behind obvious barriers. In Galway, there is a section of the Headford road between the Maldron Hotel and Dunnes that has cycling facilities but people on bikes face objectively hostile cycling conditions at either end. Separate from this there is merit in considering the public bike share scheme as a specific set of destinations that require cycling links. The Galway Public Bike Share scheme is possibly the worst performing in the country and a lot of this can be attributed to the failure to implement the recommended infrastructural supports that were suggested by the original consultants (Jacobs). The original report on regional bikeshare in 2011 recommended contra-flow cycling on one-way streets and access through the pedestrian zone. There is merit in considering the bike share scheme as a system within a system and having a specific project to look at the barriers to travel between the bike share stations and identifying remedial action.

Current thinking is that the design user of the cycle network should be aged 8 to 80. This is a valid ambition; children benefit from having independent mobility. However, for an 8-year-old the network is very much only as good as the weakest link. Cycling facilities that deliver a child into a hostile roundabout automatically fail the test. However, many eight-year-olds already have access to a small network of suitable local roads in their housing estate or local district where they already have some independence. The problem for the 8-year-old is that this local network is not connected to the other local networks of other 8-year-olds. These local low-traffic and low-speed roads need to be treated as separate network and interventions made to connect them together. There should be separate ambition that 8-year-olds (and others) should be able to avoid using main roads to the greatest extent possible for their journeys apart from having to cross them. In some cases, a network of local roads that are suitable can be created simply by removing through-traffic. The foundation of the cycling and walking network is local neighbourhoods where through-traffic has been removed. If children and adults don't feel able to walk or cycle around their local minor roads asking them to cycle across the city might be premature.

Behavioural Change and Mobility Management Plan measures

GCCN recommends that the following should be considered in GMATS:

- Support communities directly to host and run skills courses for education of all road users to consider all other road users and reduce speed.

- Support communities directly to host bike skill courses, offer bikes for use and hire, confidence building etc.
- Education on route planning for cyclist to select the quieter routes as people who drive may not think to take an alternative route to a destination.
- Support youth programmes in communities to build cycling activities and links to sports amenities, schools, general RA areas. Youth office with specific cycle focus would be needed.

Accessibility and the Public Realm Strategy

Universal Design, Sustainability, and Inclusion

The Galway Public Realm Strategy 2019 states that it will ‘promote universal design to help open up the city centre to all and make getting into and moving around the centre much easier.’ Universal design must be **at the core of design and planning** and a requirement for all developments. The principle of **Universal Design, Sustainability and Inclusion should be a dedicated topic in the new GMAT Strategy** with Universal Design included as a **core part** of the Strategy with **clear actions** illustrating how the principle of Universal Design will be applied. To make public transport fully accessible to people with disabilities requires a **‘whole journey approach’** which refers to all elements that constitute a journey from the starting point to destination. Local Authorities are a key stakeholder in this regard in the context of ensuring a **universal design approach** to the built environment, including footpaths, cycle paths, roads, pedestrian crossing points, town greenways and bus stops / shelters (the latter with NTA responsibility). Improvements need to be made in the permeability and accessibility of the built environment but also in public transport mode types and facilities.

Best Practice Guidelines

GCCN calls on all public bodies to **embed best practice guidelines in relation to Universal Design, human rights, and equality** for the provision of all public services within the remit of the GMAT Strategy.

We draw attention to the following resources on good practise:

- The National Disability Authority, ‘Building for Everyone: A Universal Design Approach – external environment.

- The National Disability Authority: ‘Code of Practice on Accessibility of Public Services and Information Provided by Public Bodies.’
- The Irish Wheelchair Association’s Best Practice Assess Guidelines: Designing Accessible Environments.
- Galway City Council, Local Community Development Committee (LCDC) Human Rights and Equality Statement (2018)¹.

Examples of Measures to Be Taken in the Physical Built Environment:

- Footpaths, dished kerbs, zebra, and all controlled road crossings must be provided and installed correctly, meeting universal design specifications including tactile surfacing. There are inaccessible footpaths in the city that are uneven, too narrow, with no dished kerbs and poles in the middle of footpaths.
- Improve safety for pedestrians by improving crossing points.
- Sound at crosswalks must be operational and not lowered or muted.
- Ensure corresponding dished kerbs on the opposite side of the street so disabled people are not forced to navigate on the road in traffic.
- Ensure all disabled parking bays have dished kerbs for accessibility.
- Footpaths in poor condition must be retrofitted as per universal design specifications.
- Widen footpaths to accommodate universal access for all including large power wheelchairs and double buggies.
- Alternatives to steel bollards at the edge of footpaths should be sought.
- Carry out regular audits, in partnership with people with lived experience and disability and community advocacy organisations, in the public realm and civic spaces to include both the city centre and suburbs based on the principles of universal design.
- Carry out an audits of bus stops, shelters, taxi ranks, public and private intercity bus, and train stations.
- Develop an action plan using the results of these audits which includes relevant material alterations for current infrastructure.
- Regular monitoring and evaluation to be built into the GMAT Strategy and the provision for changes to be made resulting from key findings in relation to progress, or lack of.

Examples of Measures to Be Taken in Transport Infrastructure:

- Many people with mobility issues across the life course are dependent on public transport and yet not all buses in the city and surrounds are accessible.

¹ [LCDC-EqualityandHumanRightsStrategy.pdf \(galwaycitycommunitynetwork.ie\)](#)

- Only one wheelchair can travel on the bus at a time. More space for people in wheelchairs should be provided particularly as Galway is destined for a 'bus-based system.'
- All buses and trains should be fitted with ramps and /or lifts which should be regularly maintained, serviced, repaired, or replaced.
- Individuals may have difficulty navigating public transportation. Information must be provided in accessible formats including ISL.
- Add visual and audible aids on all public transportation.
- Provide onsite accessible information regarding facilities including through QR code on phone.
- Bus timetables should be posted at wheelchair height at bus stops.
- Online bus timetables must be accessible for all.
- Improve public transport stops in respect to location, information, accessibility, infrastructure, and visibility.
- It is important to note that, accessible parking spaces have been relocated to facilitate the Galway Bus Connects infrastructure design. Public consultation and input by people with disabilities, including those who use these spaces, as drivers and passengers, must ensure any agreed relocation of spaces are planned with safety and quality audits undertaken with people with lived experience of disability, to ensure that the relocated spaces are not hazardous, and are safe for all to use. It is important to state that, while this bus corridor is very positive to the whole community, every change made, particularly to a person with a disability, has a bigger impact than the general public. The removal and relocation of these spaces has a very big impact to disabled drivers and passengers. The relocation of these spaces must be in areas where they enhance access rather than creating additional difficulties.

Examples of Additional Safety Measures To Be Taken:

- Adopt and implement a Street Hierarchy framework that places pedestrians, including the diverse mobility needs of ageing and disabled people, and family groups, at the top of the pyramid.



- Recognise that **shared spaces** between vulnerable pedestrians and cyclists are **not best practice, can be extremely hazardous** and **impact upon the safety** of disabled people. Pedestrians have encountered near misses with bicycles and e-scooters.
- Identify and remove obstacles and barriers to accessibility in the public realm.

Examples of Measures to be taken for Equality and Inclusion:

- Park and Ride initiatives should be accessible to disabled people.
- Access for disabled people on inter-city bus and rail transport networks needs significant improvement to enable the freedom of movement for disabled people in Galway City. The requirement to book in advance for use of a ramp at a train station is another issue that prevents spontaneous use of public transport for wheelchairs users.
- Update all bus routes to become accessible.
- Appoint a Full-time dedicated Access Officer with the remit to recruit externally.
- Develop a comprehensive Access Strategy in consultation with people with lived experience and disability and community advocacy organisations.
- Provide Disability Inclusion and Public Sector Duty Training on a six-month rotation to all Local Authority, Bus Eireann, and Irish Rail staff.
- Promote Galway as a Disability Friendly City through the Galway Metropolitan Area Transport Strategy and Tourism Strategy.

In conclusion, no transport strategy can be truly sustainable if it is unusable by a large portion of the population, so universal design and accessibility is an important consideration for any transport policy. With Ireland forecast to undergo **significant population changes** in the medium term, moving from a relatively young demographic profile to one with a **higher proportion of older people and a greater number of disabled people** (evidenced in Census 2022), what public transport challenges and opportunities does this bring?

For people with disabilities and many older people, who often rely on public transport as their only form of transport, this means **a public transport system and public realm extensive and reliable enough to enable people with disabilities, and others who rely on it, to be fully part of their community**, and avoid the isolation that can come from not being able to travel due to societal barriers.

